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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,585	01/21/2004	Stuart T. Smith	0026711.00007	4279

7590 02/13/2007
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EXAMINER

COZART, JERMIE E

ART UNIT	PAPER NUMBER
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3726

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/761,585

Applicant(s)

SMITH ET AL.

Examiner

Jermie Cozart

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 7-19,21-31 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,20,32,33 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/21/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-6, 20, 32, 33, and 35 in the reply filed on 11/13/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

2. Claims 2-6 and 20 are objected to because of the following informalities: In **claim 2**, *line 2*, "each of" is objected to because there is only "at least one lever", therefore it is suggested to delete "each of"; In **claim 3**, *line 1*, "each of" is objected to because there is only "at least one lever", therefore it is suggested to delete "each of". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 20, 32, 33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Amatucci et al. (US 6,467,761 B1).

Regarding **claim 1**, Amatucci discloses a small-scale positioning device comprising a fixed frame (206); a platform (202), movably attached to the fixed frame via at least one lever (203a, 203b); and a floating actuator (210) device, coupled between the at least one lever and the platform, that when activated generates a force on the platform (202) and an equal but opposite force on the at least one lever (203a, 203b), thereby controlling the position of the movable platform relative to the fixed frame.

Regarding **claim 2**, Amatucci discloses each of the at least one lever (203a) is coupled to the platform at a respective fulcrum (205a).

Regarding **claim 3**, Amatucci discloses each of the at least one lever (203a) is further pivotably connected to the platform via a respective flexure (211a), the flexure (211a) being separate from the fulcrum (205a).

Regarding **claim 4**, Amatucci inherently discloses that the floating actuator device (210) is of an automated type since the input force is generated for movement in the direction of the Y-axis of the moving stage by the actuator (210).

Regarding **claim 5**, Amatucci discloses the floating actuator device is a piezoelectric type (col. 2, lines 1-2).

Regarding **claim 20**, Amatucci discloses the platform (202) may be repositioned in only a single degree of freedom of motion.

Regarding **claim 32**, Amatucci discloses a method of positioning a platform (202) relative to a fixed frame (206) in a small-scale positioning device, comprising: providing a small-scale positioning device having a fixed frame (206), a platform (202) that is

Art Unit: 3726

movably attached to the fixed frame via at least one lever (203a, 203b), and a floating actuator device (210), coupled between the at least one lever (203a, 203b) and the platform (202); activating the floating actuator device (210); and upon activating the floating actuator device (210), applying a force on the platform (202) and an equal but opposite force on the at least one lever (203a, 203b), thereby controlling the position of the movable platform (202) relative to the fixed frame (206).

Regarding **claim 33**, Amatucci discloses wherein controlling the position of the movable platform (202) relative to the fixed frame (206) includes controlling motion of the movable platform (202) relative to the fixed frame in one degree of freedom.

Regarding **claim 35**, Amatucci discloses wherein the step of providing a small-scale positioning device includes providing a small-scale positioning device (200) having at least one flexure (203a) coupled between the platform (202) and the fixed frame (206), the method further comprising: guiding the motion of the platform in one degree of freedom via the at least one flexure (203a).

See column 8, line 62 – column 9, line 38 and figure 2 for further clarification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amatucci et al. (US 6,467,761 B1) in view of Applicants' Admitted Prior Art (AAPA).

Amatucci discloses all of the claimed subject matter except for the piezoelectric actuator device including an actuator formed from a relaxor material.

AAPA discloses at page 1, paragraph [0003], that it is known for a piezoelectric actuator device to include an actuator formed from a relaxor material, and provide a relatively high amount of work while occupying a small volume.

Therefore, it would have been obvious to one having ordinary skill in the art at the invention was made to form the piezoelectric actuator device of Amatucci from a relaxor material, in light of the teachings of AAPA, in order to provide a device capable of producing high amount of work while occupying a small volume.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference cited on the attached PTO-892 is cited to show a positioning stage apparatus.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermie Cozart whose telephone number is 571-272-4528. The examiner can normally be reached on Monday-Thursday, 7:30 am - 6:00 pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3726

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JERMIE E. COZART
PRIMARY EXAMINER

February 8, 2007